

# UNIVERSITY OF HAWAII

RG:0011

Environmental Center

Office of the Director

## INTERSTATE ROUTE H-3

Statement for Department of Transportation Hearing  
31 August 1973

By

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The major part of the testimony I am presenting tonight is a brief summary of the formal Environmental Center review of the "Preface to Final Environmental Impact Statement Administrative Action" for Interstate Route H-3 Halawa Interchange to Halekou Interchange, Oahu, Hawaii, submitted to the Governor's Office of Environmental Quality Control on July 23, 1973. I have attached the complete Environmental Center review for the official record of this hearing. Contributing specifically to that review were Doak C. Cox (Environmental Center), Anders Daniels (Department of Meteorology), Peter Ho (Department of Civil Engineering), and John Holmstrom (Pacific Urban Studies and Planning Program). The review comments on noise will be expanded herein on the basis of advice from John Burgess (Department of Mechanical Engineering), who was not available for the Preface review.

My summary is organized in accordance with the organization of the Preface.

### A. Impact on Trans-Koolau Mass Transit Utilization

It is recognized in the Preface that the permanent exclusive commitment of one traffic lane each way to mass transit will result in an increased diversion of personal transportation to mass transit as compared with the utilization of mass transit in mixed traffic flows. It seems probable that the diversion to mass transit, together with the attendant reduction in air pollution, would be even greater if the corridor used for mass transit represented less of a detour for most potential users. In that respect we question why the bus service to be provided on the more direct Likelike highway should not be permanent rather than temporary.

## B. Noise

The Preface to the Final Environmental Statement devotes its noise evaluation entirely to the Moanalua Valley portion of the proposed Route H-3. The effects on residential areas through or near which the route passes are not identified in this Final Statement, although some attention was given to them in the Preliminary Statement.

The major conclusion reached by the Environmental Center as a result of evaluating the Preliminary Statement is not substantially altered by the modifications identified in the Final Statement. The Statement shows that most of the Moanalua Valley area having slopes small enough to be attractive for park development will be impacted by noise. All park plans identified show much of the land area most suitable for park use devoted either to the route or to noise buffer zones parallel to the route. The expected noise levels in most of the proposed park areas are similar to those in urban residential areas near airports, railroads, and heavy traffic arteries. From a noise standpoint, these will be urban parks similar to Foster Gardens or Thomas Square, not suburban or country parks.

The Preliminary Statement identified existing residential and other areas on each side of the Koolau range which would be affected by noise. For such areas, the Environmental Center pointed out that the criterion for "no impact" used by the consultants, that there would be few complaints, was not appropriate. Disturbing the night-time sleep of even a few people constitutes some impact.

Although the noise barriers are not described in detail, it seems certain that they will interfere with the views of Kamananui valley from the highway on which much stress was laid in the EIS.

## C. Air Pollution

The analysis of air pollution levels in Moanalua appears to be based on the same model which, as was pointed out by the Environmental Center in its review of the pre-final EIS, is completely wrong. Our opinion has not been altered by subsequent correspondence concerning this model. Our analysis of the air pollution potential recently reviewed and to be published in a leading international air pollution journal shows that both federal and state CO standards will be exceeded very frequently during the morning rush hour traffic. Even with a reduction in the number of lanes the concentration will be above standards at locations described in the forthcoming paper. As recently ruled by the U.S. Supreme Court,



degradation of air quality must be a matter of federal concern, regardless of the quality in relation to standards. In addition, degradation of air quality without approval of the Director of Health is prohibited by Public Health Regulations, Chapter 42.

#### D. Land Use

The 1969 OTS land file is at best a crude source for making estimates of effective land availability. The amount of developable land free of environmental hazards is significantly smaller than that indicated in the OTS figures. Possible environmental impacts occurring due to the increased development of marginal lands does not appear to have been addressed. Pressure for Windward land use changes as a result of H-3 will likely be greater than indicated in the Preface, although such pressures may be moderated if high density residential development is permitted.

Further analysis suggests that the supply of available developable land in Windward Oahu may not be sufficient to meet demands indicated by the OTS model output. It is recognized that the model incorporates land supply constraints, so that, in fact, no more development is assigned by it to a region than that region can accommodate. The contradiction between the figures for available land given above and in the Preface suggests that the model should be rerun using a more discriminating land use file than that now employed. Such a run might well result in an estimate of less growth on Windward Oahu than the Preface indicates. In light of the discrepancy between the estimates of land availability in Table 1 of the Center's review, this result should not be surprising. If this should be the case, another question arises: Would any shortage of traffic volumes (compared with those based on existing land use projections) significantly alter the quantification of costs and benefits of H-3? That is, how necessary is H-3 recognizing the limited supply of developable land on Windward Oahu? If significant reductions in residential land consumption were not to result from such a modified run of the model, significant pressure on the supply of available land would be indicated, and the conclusion of the Preface that land use changes would not be required would have little foundation.

#### Sedimentation effects of H-3 construction

Also pertinent to the subject of this hearing is a review just completed by the Hawaii Environmental Simulation Laboratory (HESL) at the University of a consultant's report to the Department of Transportation: "Effects of construction of H-3 Interstate Highway on Erosion and Sedimentation Yield in Kaneohe Drainage Basins and in Kaneohe Bay" by Ocean Engineering Consultants, Inc.

Technical Report 103, 31 January 1973. The entire review is attached to our written statement for the official record of this hearing.

In summary, HESL checked the consultant's estimate of sediment production by the H-3 construction by an independent method. Considering the indirectness of the methods necessarily employed, HESL's estimate of about 20,000 tons per year is in reasonable agreement with the consultant's estimate of about 13,000 tons per year. HESL points out, however, that the rate of sediment delivery to Kaneohe Bay as estimated from the accumulation in the lagoon is 3 1/2 times the rate as estimated from sediment production and stream delivery, and, hence, that all estimates are subject to considerable uncertainty. HESL also points out that the estimated sediment contribution in the Bay resulting from the H-3 construction, although appearing very small in terms of annual increment of depth accumulation, is expected to be on the order of 2 or 3 times the present rate of sediment delivery from Kamooalii Stream and on the order of 20 or 30 percent of the present total sediment deliveries to the Bay from all streams. This contribution may, therefore, be quite significant in terms of biological effects.

The actual rate of sediment production by H-3 construction may differ considerably from the estimates, depending on the average area of soil unprotected and climatic conditions during the period of exposure. The estimates provided pertain only to the construction period. Some augmentation of sediment production is likely to continue after construction as the result of increased runoff, increased channelization of runoff, and changes in runoff routing.